



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/772,070

02/03/2004

Shinichi Nakano

60723 (72012)

4539

21874

7590

05/16/2007

EDWARDS ANGELL PALMER & DODGE LLP

P.O. BOX 55874

BOSTON, MA 02205

EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1764

MAIL DATE

DELIVERY MODE

05/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/772,070

Applicant(s)

NAKANO ET AL.

Examiner

Jennifer A. Leung

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-9 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment submitted on February 27, 2007 has been received and carefully considered. Claims 1 and 8 are withdrawn. Claim 9 is newly added. Claims 2-7 and 9 are currently under consideration.

Specification

2. Applicant's amendment to the bridging paragraph on pages 10-11 of the specification is objected to because "a developer carrier material 8" (line 2) should be changed to --in a developer material carrier 8-- for proper grammatical form and consistency in terminology. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 2-4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamiwano et al. (JP 11-047572).

Regarding claims 2 and 3, Kamiwano et al. (FIG. 1, 2; Abstract; Machine Translation) discloses an apparatus comprising: at least a reactor (i.e., vessel 1), a jet mechanism (i.e., nozzle 24), and a mechanism (i.e., line 21) connecting therebetween;

the reactor 1 comprising an inlet (i.e., feeding port 4), a material carrier comprising a plurality of meshes (i.e., screens 10 and 11); a stirring mechanism (i.e., rotating body 8, agitator

Art Unit: 1764

13); and an outlet (i.e., delivery port **5**) for dissolved components;

the jet mechanism **24** ejecting the dissolved components (from port **5**) into an open chamber (i.e., the chamber defined between the partition **25** and blasting tub **22**; or, the entire chamber defined by blasting tub **22**).

Regarding claim 4, the material carrier (comprising screens **10**, **11** and tube **9**) has a stirring mechanism **8** incorporated therein (see FIG. 1).

Regarding claim 9, a pressure reducing device (i.e., valve **V6**; see section [0018]) is located between the reactor **1** and the jet mechanism **24**.

Instant claims 2-4 and 9 structurally read on the apparatus of Kamiwano et al.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiwano et al. (JP 11-047572) in view of Inoue (EP 0 526 699).

Kamiwano et al. is silent as to the material carrier **10,11,9** being rotatable, such that the carrier rotates together with the stirring mechanism **8,13**; rotates in reverse relative to the rotation direction of the stirring mechanism **8,13**; or functions as a stirring mechanism. Instead, the

material carrier **10,11,9** of Kamiwano et al. is fixed.

Inoue teaches a tank **6** containing a material carrier **9**, wherein the carrier **9** is fixed (see FIG. 1; column 3, line 14 to column 4, line 44). Additionally, Inoue teaches that instead of a fixed carrier, the carrier **24** (see FIG. 4; column 4, line 55 to column 5, line 40) may be rotatable, such that the carrier **24** is capable of rotating together with the stirring mechanism **21,23**; capable of rotating in reverse relative to the rotation direction of the stirring mechanism **21,23** (as evidenced by the provision of the carrier **24** and the stirring mechanism **21,23** on two separate shafts **22,25**; see rotation arrows in FIG. 4); or functions as a stirring mechanism.

It would have been obvious for one of ordinary skill in the art at the time the invention was made to configure the material carrier in the apparatus of Kamiwano et al. to be rotatable, as claimed, on the basis of suitability for the intended use thereof, because the provision of a rotatable carrier in addition to a rotatable stirring mechanism allows for increased shearing, and the material is thereby processed uniformly and fast, as taught by Inoue (column 5, lines 11-25).

Response to Arguments

5. Applicant's arguments filed February 27, 2007 have been fully considered but they are not persuasive.

Comments regarding the rejection of claims 2-4 and 9 under 35 U.S.C. 102(b) as being anticipated by Kamiwano et al. (JP 11-047572)

Applicant (at page 6, first paragraph) argues,

“In the present invention, the forming of particles and separation from the supercritical or subcritical fluid occurs upon discharge of from the jet mechanism into the open chamber. There is no "blasting nozzle and a blasting aperture, a collision plate and enclosure 25" as taught by Kamiwano. Discharge into an open chamber is contrary to

discharging into a collision plate.”

The Examiner respectfully disagrees and maintains that the apparatus of Kamiwano et al. structurally reads on the claims. The limitation of an “open chamber” may be interpreted in many ways. According to one interpretation, a chamber may be considered “open” if it is free of obstructions. Interpreted in another manner, a chamber may be considered “open” if there are openings provided on the chamber wall that allow for fluid flow communication to and/or from the chamber. In the instant case, the apparatus of Kamiwano meets both interpretations of an “open chamber”. For instance, the chamber, as defined between the wall of the blasting tub 22 and the partition 25, does not contain any obstructions and, therefore, satisfies the limitation of an “open chamber”. Also, the chamber defined by the entire blasting tub 22 satisfies the limitation of an “open chamber”, since the chamber comprises openings that provide fluid flow communication to and/or from the chamber.

Comments regarding the rejection of claims 5-7 under 35 U.S.C. 103(a) as being unpatentable over Kamiwano et al. (JP 11-047572) in view of Inoue (EP 0 526 699)

Applicant (at page 6, fourth paragraph) further argues,

“... Inoue relates to apparatus that uses dispersing, grinding media such as balls, beads, etc. [col. 1, lines 5-10]. It is well known to use such dispersing grinding media to finely disperse particles in a fluid. In Inoue, the dispersing media does not flow out of the basket into the tank [col. 2, lines 20-25]. However, the present invention dissolves a resin in a subcritical or supercritical fluid; no grinding media is utilized. It is not seen how the disclosure of Inoue is relevant to the present invention. It is respectfully submitted that one of ordinary skill in the art would not look to Inoue for developing a method for dissolving a resin in a subcritical or supercritical fluid. It is not seen how one of ordinary skill in the art would combine the teachings of Kamiwano with Inoue.

Further, even if one of ordinary skill in the art were to combine the teachings, it is not seen what combination would result or how the present invention would result.”

This argument is not found persuasive. With respect to the provision of grinding media such as balls, beads, etc., the modified apparatus of Kamiwano et al. meets the claims, since the transitional term “comprising” is inclusive or open-ended, and does not exclude additional, unrecited elements.

In addition, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the instant case, the modified apparatus of Kamiwano et al. would be structurally capable of carrying other forms of solid media within the material carrier, such as a solid resin.

Also, expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969), and the inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Therefore, the recitations with respect to the dissolving of developer material, such as a resin, using subcritical or supercritical fluid adds no further patentable weight to the claim.

The Examiner further maintains that it would have been obvious for one of ordinary skill in the art to combine the teachings of Kamiwano with Inoue, given that both Kamiwano and Inoue relate to apparatuses used for dispersing media, and both Kamiwano and Inoue are

concerned with the same problem of improving the dispersing efficiency of their apparatuses.

Applicant (at page 6, last paragraph, to page 7, first paragraph) further argues,

“Inoue is totally silent on use of subcritical or supercritical fluid. Inoue fails to teach or suggest dissolving developer components in a subcritical or supercritical fluid and, then, ejecting the fluid with dissolved components under pressure into an open chamber to form particles.”

This argument is not found persuasive. Firstly, Inoue was merely relied upon as a secondary reference to teach the claimed feature of a rotatable material carrier. Secondly, the modified apparatus of Kamiwano et al. structurally meets the claims because expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim, *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969), and the inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims. *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Therefore, the recitations with respect to the supercritical or subcritical fluid, developer materials, dissolved developer material components, dispersed coloring agent, or particles formed add no further patentable weight to the claim.

In any event, it is further noted that the primary reference to Kamiwano et al. specifically discloses the use of subcritical or supercritical fluids (see, for example, the machine translated abstract, claims 1 and 2, and sections [0008]-[0010]).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

Art Unit: 1764


MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jennifer A. Leung
May 3, 2007


Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700